

What is claimed is:

1      1. A skew correction circuit comprising:

2            a first circuit to generate a pulse train signal in response to a data bit signal and a first  
3            strobe signal, a duty cycle of the pulse train signal being indicative of a degree of skew  
4            between the data signal and the strobe signal; and

5            a second circuit coupled to the first circuit to produce a second strobe signal and  
6            regulate a timing relationship between the data bit and the second strobe signal based on the  
7            duty cycle of the pulse train.

1      2. The skew correction circuit of claim 1, wherein the second circuit comprises:

2            an error register to store a calibration value indicative of the degree of skew.

3      3. The skew correction circuit of claim 2, wherein the second circuit further  
comprises:

4            a delay chain coupled to the error register to delay the first strobe signal based on the  
calibration value to produce the second strobe signal.

5      4. The skew correction circuit of claim 1, wherein said at least one pulse train  
signal comprises:

6            a first pulse train signal having a duty cycle that increases with an increase in the  
degree of skew and a second pulse signal having a duty cycle that decreases with a decrease  
in the degree of skew.

1        5. The skew correction circuit of claim 4, wherein the first circuit further  
2 comprises:

3              a first low pass filter to filter the first pulse train signal to produce a first filtered  
4 signal;

5              a second low pass filter to filter the second pulse train signal to produce a second  
6 filtered signal; and

7              an amplifier to produce the indication of the degree of skew based on the difference  
8 of the first and second filtered signals.

1        6. The skew correction circuit of claim 1, wherein the duty cycle of said at least  
2 one pulse train signal indicates the degree of skew.

*Sub 016*  
*370/516*  
*Sub 017*  
*11/01/02*  
A data receiver comprising:

buffers, each buffer to latch a different data bit signal;

a first circuit to generate at least one pulse train signal in response to a strobe signal  
and for each data bit signal, a duty cycle of said at least one pulse train signal indicating a  
degree of skew between the data bit signal and the strobe signal; and

a second circuit coupled to the first circuit and the buffers to regulate latching of the  
data bit signals by the buffers based on the indicated degrees of skew.

*Sub 017*  
8. The data receiver of claim 7, wherein the first circuit comprises:

registers, each register being associated with a different one of the data bit signals and  
indicating the degree of skew between the strobe signal and the associated data bit signal.

9. The data receiver of claim 7, wherein the second circuit comprises:

a delay chain to receive the strobe signal, the delay chain including taps indicating the  
strobe signal delayed by different delays; and

multiplexing circuitry to selectively couple the taps to the buffers based on the  
indicated degrees of skew.

1        10. The data receiver of claim 7, further comprising:  
2              multiplexing circuitry to select one of the data bit signals, and  
3              wherein the first circuit comprises a third circuit to provide said at least one pulse  
4              train signal indicative of the degree of skew between the selected data bit signal and the  
5              strobe signal.

1        11. The data receiver of claim 10, wherein said at least one pulse train signal  
2              comprises:

3              a first pulse train signal having a duty cycle that increases with an increase in the  
4              degree of skew between the selected data bit signal and the strobe signal and a second pulse  
5              signal having a duty cycle that decreases with a decrease in the degree of skew between the  
6              selected data bit signal and the strobe signal.

*Sub 27*  
1        12. The data receiver of claim 11, wherein the first circuit further comprises:  
2              a first low pass filter to filter the first pulse train signal to produce a first filtered  
3              signal;  
4              a second low pass filter to filter the second pulse train signal to produce a second  
5              filtered signal; and  
6              an amplifier to produce the indication of the degree of skew between the selected data  
7              bit signal and the strobe signal based on the difference of the first and second filtered signals.

*Sub 28*  
1        A method comprising:  
2              using a data bit signal and a first strobe signal to generate pulse train signal, a duty  
3              cycle of the pulse train signal indicating a degree of skew between the data bit signal and the  
4              strobe signal; and  
5              regulating a timing relationship between the data bit and the second strobe signal  
6              based on the degree of skew indicated by the duty cycle.

1        14. The method of claim 13, wherein the indicating comprises:  
2              storing a calibration value indicative of the degree of skew.

*15, 16, 17*

15. The method of claim 14, further comprising:

2 delaying the first strobe signal based on the calibration value to produce the second  
3 strobe signal.

16. The method of claim 13, wherein said at least one pulse train signal

2 comprises:

3 a first pulse train signal having a duty cycle that increases with an increase in the  
4 degree of skew and a second pulse signal having a duty cycle that decreases with a decrease  
5 in the degree of skew.

17. The method of claim 16, further comprising:

2 filtering the first pulse train signal to produce a first filtered signal;

3 filtering the second pulse train signal to produce a second filtered signal; and

4 amplifying a difference of the first and second filtered signals to indicate the degree  
5 of skew.

*Skip 18.* The method of claim 13, wherein the duty cycle of said at least one pulse train  
signal indicates the degree of skew.

19. The method of claim 13, further comprising:

2 causing the data bit signals to indicate a predetermined data pattern to generate the

3 pulse train signal.

*Add B4*  
*Add F17*